WHAT IS CLAIMED IS:

1. A method of transmitting S sub-codes C_i (i = 0, 1, 2, . . . , S–1) in a transmitter having a sub-code generator for generating the sub-codes C_i from a physical layer packet (PLP) information stream using quasi-complementary turbo codes in a CDMA (Code Division Multiple Access) mobile communication system, the method comprising the steps of:

initially transmitting a first sub-code C_0 and sequentially transmitting the following sub-codes each time a retransmission request is received for the initial transmission or a previous retransmission; and

transmitting the first sub-code C_0 if a retransmission request is received for a last sub-code C_{S-1} and then sequentially transmitting the following sub-codes each time a retransmission request is received.

2. The method of claim 1, wherein each sub-code is transmitted in one PLP and if the PLP includes a plurality of transmission frames, the sub-code is transmitted in each of the transmission frames.

3. The method of claim 2, wherein a retransmission request is received for a transmission frame.

4. The method of claim 2, wherein the transmission frame is a slot.

5. A method of transmitting S sub-codes C_i (i = 0, 1, 2, . . . , S–1) to a receiver in physical layer packets (PLPs), each having one or more transmission frames, in response to an initial transmission request and retransmission requests in a transmitter having a sub-code generator for generating the sub-codes C_i from a PLP information stream using quasi-complementary turbo codes in a CDMA (Code Division Multiple Access) mobile

communication system, the method comprising the steps of:

initially transmitting a first sub-code C_0 to the receiver;

transmitting a second sub-code C_1 upon receipt of a retransmission request for the first sub-code C_0 from the receiver, and then sequentially transmitting a third to a last sub-codes C_2 to C_{S-1} each time a retransmission request is received from the receiver; and

transmitting the first sub-code C_0 if a retransmission request for the last sub-code C_{S-1} is received, and then sequentially transmitting the second to the last sub-codes C_1 to C_{S-1} each time a retransmission request is received from the receiver.

6. The method of claim 5, wherein each sub-code is transmitted to the receiver in one PLP and if the PLP includes a plurality of transmission frames, the sub-code is transmitted in each of the transmission frames.

7. The method of claim 6, wherein a retransmission request is received for a transmission frame.

8. The method of claim 6, wherein the transmission frame is a slot.

9. A method of transmitting S sub-codes C_i ($i = 0, 1, 2, \ldots, S-1$) to a receiver in physical layer packets (PLPs), each having one or more transmission frames, in response to an initial transmission request and retransmission requests in a transmitter having a sub-code generator for generating the sub-codes C_i from a PLP information stream using quasi-complementary turbo codes in a CDMA (Code Division Multiple Access) mobile communication system, the method comprising the steps of:

(1) setting a count value i to an initial value for initial transmission;

(2) transmitting an ith sub-code to the receiver in a transmission frame;

(3) determining whether the ith sub-code has been transmitted in all transmission frames of a PLP upon receipt of a retransmission request for the ith sub-code from the receiver;

(4) transmitting the ith sub-code in a next transmission frame to the receiver if the ith sub-code has not been transmitted in all the transmission frames of the PLP;

(5) increasing the count value i by 1 if the ith sub-code has been transmitted in all the transmission frames of the PLP;

(6) returning to step (1) if the count value i is greater than the number S of the sub-codes and returning to step (2) if the count value i is less than or equal to the number S of the sub-codes.

10. A method of receiving S sub-codes C_i (i = 0, 1, 2, . . . , S–1) in a CDMA (Code Division Multiple Access) mobile communication system where the S sub-codes C_i are generated from a physical layer packet (PLP) information stream using quasi-complementary sub-codes, transmitted sequentially in response to initial transmission and retransmission requests, and repeatedly transmitted if the S sub-codes C_i are completely transmitted, the method comprising the steps of:

receiving the sub-codes that are transmitted in response to the initial transmission and retransmission requests;

performing code combining on a received sub-code and all sub-codes received in response to the initial transmission request and the previous retransmission requests if the received sub-code is not repeated prior to transmission; and

performing diversity combining on the received sub-code and the previously received same sub-codes if the received sub-code is repeated prior to transmission and then performing code combining on the received sub-code and all sub-codes received in response to the initial transmission and retransmission

requests.

11. The method of claim 10, wherein an error check is performed on the data resulting from the code combining and if an error is detected from the data, a retransmission request is generated for the data.

12. The method of claim 10, wherein if a number j of sub-codes received in response to the initial transmission and retransmission requests is greater than the total number S of the sub-codes C_i, it is determined that the received sub-code was repeated.

13. The method of claim 10, wherein the code combining is performed by summing the received sub-code and all the sub-codes received according to the initial transmission request and the previous retransmission requests.

14. A method of receiving S sub-codes C_i ($i = 0, 1, 2, \ldots, S-1$) in a CDMA (Code Division Multiple Access) mobile communication system where the S sub-codes C_i are generated from a physical layer packet (PLP) information stream using quasi-complementary sub-codes, transmitted sequentially in PLPs each having one or more transmission frames in response to an initial transmission request and retransmission requests, and repeatedly transmitted if the S sub-codes C_i are completely transmitted, the method comprising the steps of:

generating a retransmission request for a first sub-code C_0 if the sub-code C_0 has an error;

determining whether a received sub-code is repeatedly received by comparing a number j of sub-codes received so far in response to the initial transmission and retransmission requests, upon receipt of the sub-code for the

retransmission request;

performing code combining between the received sub-code and all the sub-codes received for the initial transmission request and the previous retransmission requests, if the received sub-code is not repeatedly received;

performing diversity combining between the received sub-code and the previously received same sub-codes and then performing code combining between the received sub-code and all the sub-codes received for the initial transmission request and the previous retransmission requests, if the received sub-code is repeatedly received; and

generating a retransmission request for data resulting from the code combining, if an error is detected from the data.

15. The method of claim 14, wherein the code combining is performed by summing the received sub-code and all the sub-codes received according to the initial transmission request and the previous retransmission requests.

16. A method of receiving S sub-codes C_i (i = 0, 1, 2, . . . , S–1) in a CDMA (Code Division Multiple Access) mobile communication system where the sub-codes C_i are generated from a PLP (Physical Layer Packet) information stream using quasi-complementary turbo codes, sequentially transmitted in physical layer packets (PLPs), each having one or more transmission frames, in response to an initial transmission request and retransmission requests, and repeatedly transmitted after the sub-codes C_i are all transmitted, the method comprising the steps of:

(a) setting a first count value i and a second count value j to initial values for initial transmission;

(b) receiving an ith sub-code C_i;

(c) comparing the second count value j with the total number S of the

sub-codes;

(d) performing diversity combining between the ith sub-code C_i and the previously received ith sub-code C_i if the second count value j is greater than the sub-code number S;

(e) performing code combining between the received ith sub-code C_i and all previously received sub-codes if the second count value j is less than or equal to the sub-code number S, or if the diversity combining is completed;

(f) performing an error check on the code-combined data;

(g) transmitting a retransmission request to a transmitter and then storing the ith sub-code C_i if an error is detected from the ith sub-code C_i; and

(h) increasing the first and second count values i and j by 1, performing a modulo operation on the first count value i with the total number S of the sub-codes, updating the first count value i to the modulo-operated value, and returning to step (c).

17. A CDMA (Code Division Multiple Access) mobile communication system comprising:

a transmitter having a sub-code generator that generates S sub-codes C_i (i = 0, 1, 2, . . . , S–1) from a PLP (Physical Layer Packet) information stream using quasi-complementary turbo codes, for sequentially transmitting the S sub-codes for initial transmission and upon receipt of retransmission requests and retransmitting the S sub-codes after the S sub-codes are completely transmitted; and

a receiver for performing diversity combining on the same sub-codes among the sub-codes sequentially received from the transmitter and then performing code combining on the received sub-codes.